

**Amendments to the Abstract**

Please replace the paragraph at page 76, lines 4 through 22 with the following amended paragraph:

A method for synthesizing a sequence includes defining a switching linear dynamic system (SLDS) with a plurality of dynamic systems. In a Viterbi-based method, a state transition record for a training sequence is determined. The corresponding sequence of switching states is determined by backtracking through the state transition record. Parameters of [[the]] dynamic models are learned in response to the determined sequence of switching states, and a new data sequence is synthesized, based on the dynamic models whose parameters have been learned. In a variational-based method, the switching state at a particular instance is determined by a switching model. The dynamic models are decoupled from the switching model, and parameters of the decoupled dynamic model are determined responsive to a switching state probability estimate. ~~A state of a decoupled dynamic model corresponding to a measurement at the particular instance is estimated, responsive to one or more training sequences. Parameters of the decoupled switching model are then determined, responsive to the dynamic state estimate. A probability is estimated for each possible switching state of the decoupled switching model. The sequence of switching states is determined based on the estimated switching state probabilities. Parameters of the dynamic models are learned responsive to the determined sequence of switching states, and a new data sequence is synthesized based on the dynamic models with learned parameters.~~ Similar methods are used to interpolate from an input sequence.